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- (72) Inventor; and
- (75) Inventor/Applicant (for US only): ROBERTS, David, K. [GB/GB]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
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- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

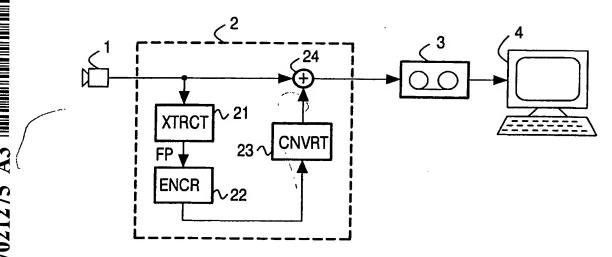
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(54) Title: EMBEDDING FINGERPRINT DATA FOR MEDIA CONTENT IDENTIFICATION



(57) Abstract: Disclosed is a method of embedding a fingerprint identifying media content into a media transmission signal used for transmission of said media content. In order to achieve that the embedded fingerprint survives all kinds of analogue and digital processing such as compression, the fingerprint (FP) extracted (21) from the content is converted (23) into the same signal format as used for the transmission of the content. For example, the fingerprint derived from a video signal generated by a security camera (1) is converted into image pixels. The fingerprint is subsequently accommodated (24) in a part of the signal being provided, but not being used, for transmission of content. For example, the fingerprint of video images is accommodated in the vertical blanking interval of a television signal. The converted fingerprint may also replace a small part of the original content.



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A. CLASSIFICATION OF SUBJECT MATTER IPC 7 G06T1/00

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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) $\begin{tabular}{ll} {\bf IPC} & {\bf 7} & {\bf G06T} & {\bf H04N} \end{tabular}$

Documentation searched other than minimum documentation to the extent that such documents are included. In the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, INSPEC, PAJ, IBM-TDB

C. DOCUM	ENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the	relevant passages	Relevant to claim No.
X	WO 00 51348 A (MACROVISION CORP 31 August 2000 (2000-08-31) abstract page 2, line 21 -page 3, line 5 page 5, line 15 - line 36	,	1-16
X	EP 0 618 723 A (SONY CORP) 5 October 1994 (1994-10-05) page 4		1,4-8, 13-16
X	EP 0 901 282 A (HITACHI LTD) 10 March 1999 (1999-03-10) figures 1,2		1,7
		-/	
X Furt	her documents are listed in the continuation of box C.	X Patent family members are listed	in annex.
"A" docum consid "E" earlier filing o "L" docum which citatio "O" docum other "P" docum	ategories of cited documents: ent defining the general state of the art which is not dered to be of particular relevance document but published on or after the international date ent which may throw doubts on priority ctaim(s) or is cited to establish the publication date of another n or other special reason (as specified) ent referring to an oral disclosure, use, exhibition or means ent published prior to the international filling date but han the priority date ctaimed	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone document use, exhibition or set of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.	
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8	December 2003	26/02/2004	

	INTERNATIONAL SEARCH REPORT	PCT/I	/03290		
C.(Continu	C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT				
Category °	Citation of document, with indication, where appropriate, of the relevant passages		Relevant to claim No.		
A	OOSTVEEN J ET AL: "VISUAL HASHING OF DIGITAL VIDEO: APPLICATIONS AND TECHNIQUES" PROCEEDINGS OF THE SPIE, SPIE, BELLINGHAM, VA, US, vol. 4472, December 2001 (2001-12), pages 121-131, XP001078972 ISSN: 0277-786X cited in the application abstract		1-16		
Α	WO 99 18723 A (HOLZGRAFE JAMES R ;DIGIMARC CORP (US); RYAN JOHN O (US); CAPITANT) 15 April 1999 (1999-04-15) abstract page 11 -page 13		1-16		
A	SCHNEIDER M ET AL: "A robust content based digital signature for image authentication" PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON IMAGE PROCESSING (ICIP) LAUSANNE, SEPT. 16 - 19, 1996, NEW YORK, IEEE, US, vol. 1, 16 September 1996 (1996-09-16), pages 227-230, XP010202372 ISBN: 0-7803-3259-8 section 5.0		1-16		

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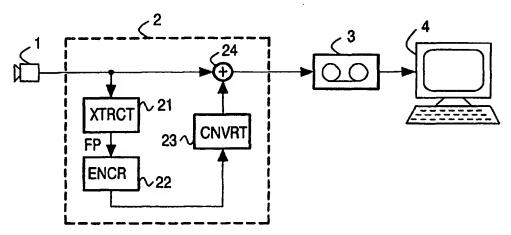
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Declaration under Rule 4.17:

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[Continued on next page]

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